



Reference Standard

ATEX
2014/34/UE



Pressures

4 bar (0.4 MPa)
10 bar (1 MPa)



Temperature

-20 °C
+ 80 °C

CARATTERISTICHE

Fluid	filtered air, with or without lubrication
Body	die-cast aluminium
Cover	die-cast aluminium
Piston	aluminium
Seals	NBR
Springs	special steel

Cylinders series M, L, RS

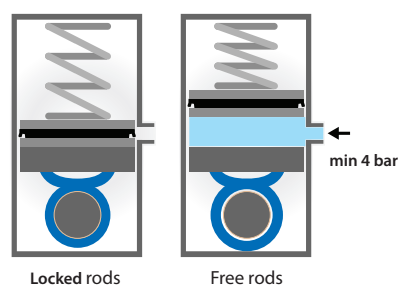
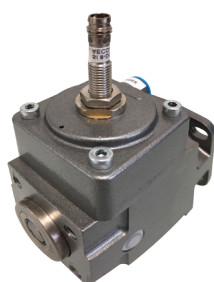


Series	Cylinder bore (mm)	Piston rod bore (mm)	Option
L 1 N	0 1 6	2 0	☐
L1-N Locking unit for cylinders and rods	016 = Ø016 020 = Ø020 025 = Ø025 032 = Ø032 040 = Ø040 050 = Ø050 063 = Ø063 080 = Ø080 100 = Ø100 125 = Ø125	Ø06 Ø16 Ø08 Ø20 Ø10 Ø25 Ø12 Ø32	K Metallic piston rod scraper (upon request)

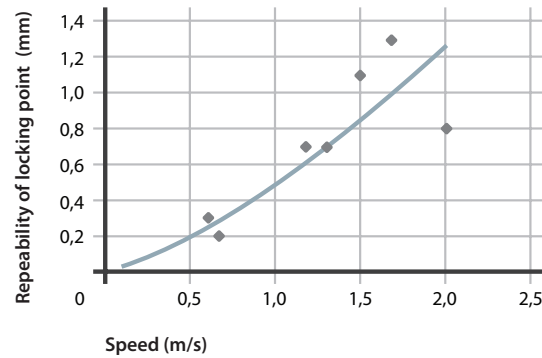
Ø	Ø Stelo (mm)	Static locking force	Pressure on the equivalent cylinder	Dynamic braking force	Response time at 6 bar	Stopping point repeatability	Vibration resistance	Shock resistance	Minimum release pressure*
		N	bar	a 1m/s	ms			J	bar
16	6	200	10	40% of the static locking force	12	< 1 mm a 1 m/s	10 g (10-55 Hz) for 30 minutes on each axis	2	4
20	8	314			12			3	
25	10	490			15			4	
32	12	800			20			5	
40	16	1260			20			8	
50	20	2000			25			11	
63	20	3100			25			15	
80	25	5000			30			21	
100	25	7850			30			29	
125	32	12300			40			40	

* = For release pressure values under 4 bar, the reaction of the locking unit cannot be foreseen

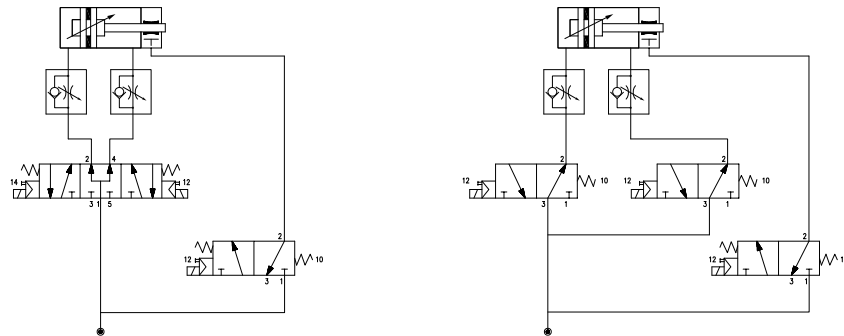
LOCKING UNIT WITH M8 INDUCTIVE POSITION SENSOR



Stop point



Scheme of working principle



Breaking distance

In some applications, it could be necessary to know the piston rod strokes between the receipt of an emergency signal and its stop.

This value (S) depends on the following values:

V = speed at emergency signal in m/s

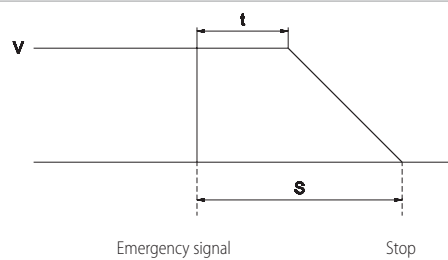
t = locking system response time in seconds

m = displacing mass (Kg)

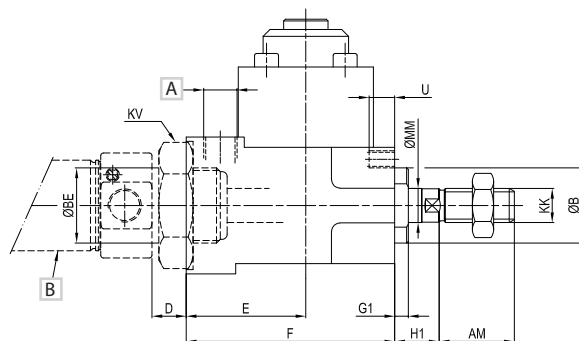
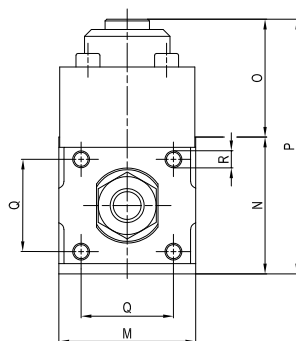
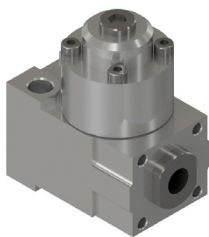
f = breaking force under dynamic conditions in N (see table performances and characteristics)

$$S = (V \cdot t) + \frac{m V^2}{2 f} = (0,7 \cdot 0,02) + \frac{10 \cdot 0,7^2}{2 \cdot 756} = 0,017 \text{ m}$$

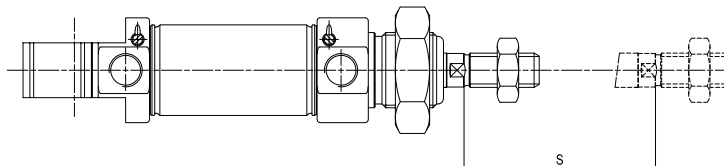
Example: locking unit size 40 with dynamic load 10 kg at a speed of 0,7 m/s



Mass		
	Ø	g
	16	430
	20	430
	25	380
	32	650
	40	850
	50	1350
	63	2100
	80	3800
	100	6300
	125	10000

LOCKING UNIT FOR MICROCYLINDERS Ø 16 ÷ 25 MM - SERIES M


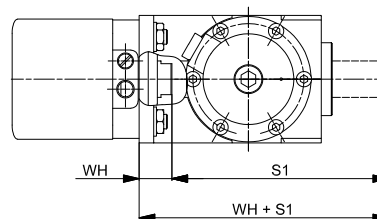
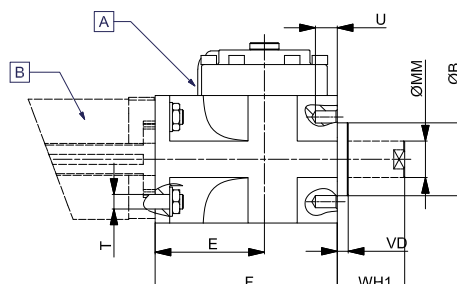
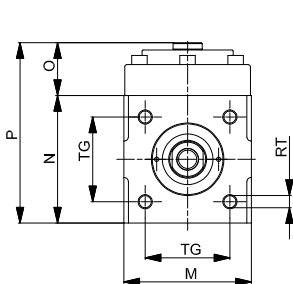
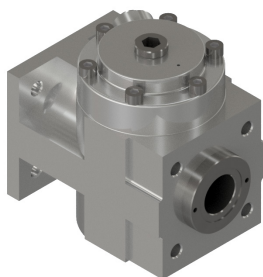
> Additional length to standard rod



A - G1/8 pneumatic release

B - ISO microcylinder

Ø	AM	B	BE	D	E	F	G1	H1	KK	KV	M	MM	N	O	P	Q	R	S	U
16	16	16	M16 x 1,5	10	35	61	1,5	7	M6 x 1	es. 24	40	6	40	34,5	74,5	27	M5	55	7,5
20	20	22	M22 x 1,5	10	35	61	4	9	M8 x 1,25	es. 32	40	8	40	34,5	74,5	27	M5	55	7,5
25	22	22	M22 x 1,5	10	35	61	4	13	M10 x 1,25	es. 32	40	10	40	34,5	74,5	27	M5	55	7,5

LOCKING UNIT FOR COMPACT CYLINDERS STRONG Ø 32 ÷ 100 MM - SERIES RS


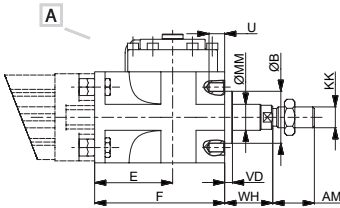
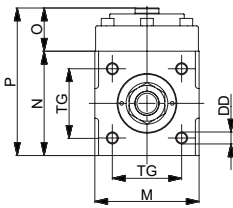
A - G1/8 pneumatic release

B - STRONG cylinder

Ø	B	RT	E	F	M	MM	N	O	P	TG	S1	U	T	VD	WH	WH1
32	30	M6	54,5	84	50	12	50	29,5	79,5	32,5	82	10	6,5	6	14	26
40	35	M6	58	90	58	16	58	29,5	87,5	38	90	9	6,5	6	14	30
50	40	M8	60	100	70	20	70	29	99	46,5	100	10	8,5	6	18	37
63	45	M8	65	110	85	20	85	37	122	56,5	110	13	8,5	6	18	37
80	45	M10	75	125	100	25	100	40,5	140,5	72	125	16	10,5	8	32	46
100	55	M10	90	152	116	25	116	59	179	89	152	18	10,5	8	32	51

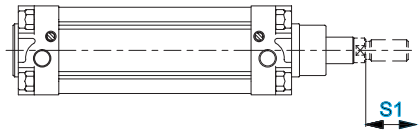
PARKING LOCK BLOCK FOR ISO CYLINDERS Ø 32 – Ø 125 – SERIES L

ISO PROTRUSION



ADDITIONAL LENGTH TO STANDARD ROD

S1 for ISO protrusion



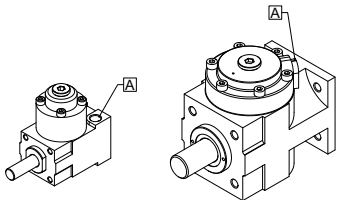
A - G1/8 pneumatic release

Ø	Ø Rod (mm)	AM	B	DD	E	F	H1	KK	M	MM	N	O	P	S1	TG	U	VD	WH
32	12	22	30	M6	54,5	84	16	M10 X 1,25	50	12	50	29,5	79,5	85	32,5	10	6	26
40	16	24	35	M6	58	90	15	M12 X 1,25	58	16	58	29,5	87,5	90	38	9	6	30
50	20	32	40	M8	60	100	17	M16 X 1,5	70	20	70	29	99	100	46,5	10	6	37
63	20	32	45	M8	65	110	17	M16 X 1,5	85	20	85	37	122	110	56,5	13	6	37
80	25	40	45	M10	75	125	21	M20 X 1,5	100	25	100	40,5	140,5	125	72	16	8	46
100	25	40	55	M10	90	152	26	M20 X 1,5	116	25	116	59	59	150	89	18	8	51
125	32	54	60	M12	112,5	185	35	M27 X 2	145	32	145	62	62	185	110	22	9,5	65

ASSEMBLY INSTRUCTION FOR RODS

PNEUMATIC RELEASE (MECHANIC)

1

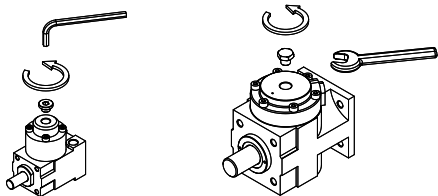


With 6 bar compressed air prepare to feed safety the release port (e.g. check valve or reservoir)
Supply with pressurized air to clear the false rod off.
Ensure the safe and controlled removal of the false rod.

A = Supply

MANUAL RELEASE (MECHANIC)

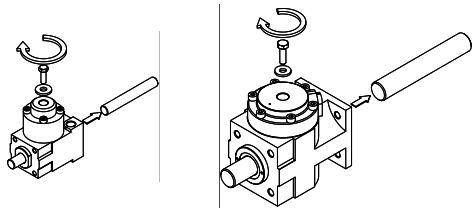
1



Remove the protective cap from manual control, by using a hex key for Ø 16 ÷ 25 or a wrench for Ø 32 ÷ 125.

Ø	Screw	Washer UNI 6593
16		
20	M5x15	6,6x12,5
25		

2

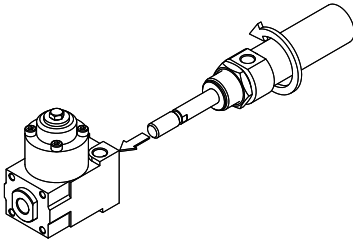


Tighten in the threaded screw M (see tables) until the jaws are released (at this point the block is deactivated) and extract the false rod.

Ø	Screw	Washer UNI 6593
32	M5x15	6,6x12,5
40		
50	M6x15	9x17
63		
80	M8x20	
100	M10x35	11x21
125		

ASSEMBLING INSTRUCTION FOR CYLINDERS

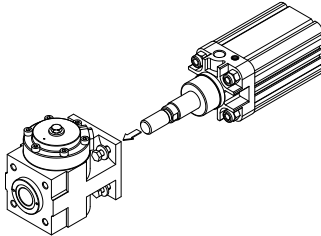
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Ø 16 ÷ 25

Insert the cylinder rod into the locking unit and tighten it in, orienting it to the correct position.
Reset the locking functions (mechanical or pneumatic) and proceed by fully tightening the fixing nut.

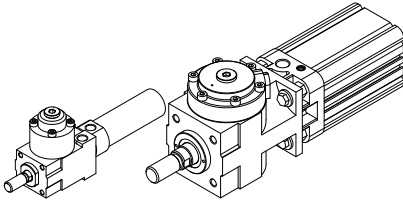
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Ø 32 ÷ 125

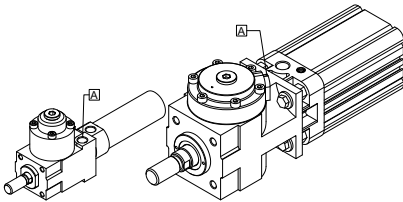
Insert the cylinder rod into the locking unit and pre-fix it onto the end cap by means of the appropriate screws supplied. Reset the locking functions (mechanical or pneumatic) and fully tighten the fixing screws.

2



Remove the threaded screw used to release the jaws and reposition the protective cap (mechanical).

3



Ensure it is correctly working in both locking and release conditions by performing different actions.

A = Supply

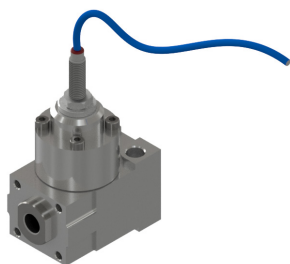
FIXING SCREWS Ø 32 ÷ 63 MM FOR STRONG COMPACT CYLINDERS
GRAIN UNI 5923, WASHER AND NUT UNI 5589

Ø	Small parts	Q.ty	Dimensions	Part no.	Pack
32	Grain	4	M6x30	AZ4-VS0630	100 pz
	Washer		6,4x16	AZ4-SR06,41,6	100 pz
	Nut		M6x1	AZ4-SO0064	100 pz
40	Grain		M6x30	AZ4-VS0630	100 pz
	Washer		6,4x16	AZ4-SR06,41,6	100 pz
	Nut		M6x1	AZ4-SO0064	100 pz
50	Grain		M8x40	AZ4-VS0840	100 pz
	Washer		8,4x1,6	AZ4-SR841,6	100 pz
	Nut		M8x1,25	AZ4-SH08125	100 pz
63	Grain		M8x40	AZ4-VS0840	100 pz
	Washer		8,4x1,6	AZ4-SR8,41,6	100 pz
	Nut		M8x1,25	AZ4-SH08125	100 pz
80	Grain		M10x45	AZ4-VS0010-45	100 pz
	Washer		10x18	AZ4-SR10,018,2	100 pz
	Nut		M10x1,5	AZ4-SN010A	100 pz
100	Grain		M10x50	AZ4-VS0010-50	100 pz
	Washer		10x18	AZ4-SR10,018,2	100 pz
	Nut		M10x1,5	AZ4-SN010A	100 pz

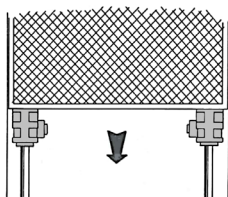
FIXING SCREWS Ø 32 ÷ 125 MM FOR ISO CYLINDERS
SCREW WITH HEXAGONAL HEAD UNI 5739 AND WASHER UNI 6592 FOR ASSEMBLING LOCKING UNIT TO ISO CYLINDER

Ø	Small parts	Q.ty	Dimensions	Part no.	Pack
32	Screws	4	M6x16	AZ4-VE0616	100 pz
	Washer		6,4x1,6	AZ4-SR06,41,6	100 pz
40	Screws		M6x20	AZ4-VE0620	100 pz
	Washer		6,4x1,6	AZ4-SR06,41,6	100 pz
50	Screws		M8x20	AZ4-VE0820	100 pz
	Washer		8,4x1,6	AZ4-SR08,41,6	100 pz
63	Screws		M8x25	AZ4-VE0825	100 pz
	Washer		8,4x1,6	AZ4-SR08,41,6	100 pz
80	Screws		M10x30	AZ4-VE1030	100 pz
	Washer		10,5x2	AZ4-SR10,52,0	100 pz
100	Screws		M10x30	AZ4-VE1030	100 pz
	Washer		10,5x2	AZ4-SR10,52,0	100 pz
125	Screws		M12x35	AZ4-VE1235	100 pz
	Washer		13x2,5	AZ4-SR13,02,5	100 pz

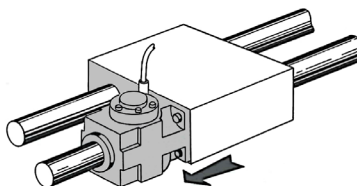
L1-N _ _ _ _ PRM08



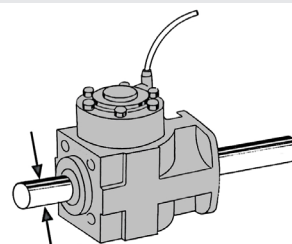
Locking unit with M8 inductive position sensor

OTHER EXAMPLES OF LOCKING UNIT APPLICATIONS


For bulkheads



For carriages



F8

F8

Ø 6 - 8 - 10 - 12 - 14 - 16

Ø 20 - 25 - 32

For chrome-plated rods

Shafts with F8-F7 tolerance are to be used